

### Abstract

A micro-gyroscope (10) having closed loop operation by a control voltage ( $V_{ty}$ ), that is demodulated by an output signal of the sense electrodes (S1, S2), providing Coriolis torque rebalance to prevent displacement  
5 of the micro-gyroscope (10) on the output axis (y-axis). The present invention provides independent alignment and tuning of the micro-gyroscope by using separate sensors and actuators to detect and adjust alignment and tuning. A quadrature amplitude signal is used to detect misalignment, that is corrected to zero by an electrostatic bias adjustment. A quadrature signal noise level, or a  
10 transfer function test signal, is used to detect residual mistuning, that is corrected to zero by a second electrostatic bias adjustment.

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